

Amendment to Drawings:

The attached drawing sheets reflect changes to Figures 2 and 3. The sheets replace the original drawing sheets that include Figures 2 and 3. In Figure 2, the term "POSITION" was inserted between "MONITOR" and "SENSOR" in blocks 114 and 124. In Figure 3, reference number 29 denoting the manifold was added.

Attachments:

Replacement Drawing Sheet

REMARKS

After entry of this amendment, claims 1-28 are pending in the application. Claims 1, 3, 8, 10, 12, 17, 19 and 22 have been herein amended to more particularly point out and distinctly claim Applicant's invention. New claims 23-28 have been added. Reconsideration is respectfully requested.

The Examiner has objected to Fig. 2 of the drawings, suggesting that blocks 114 and 124 be amended to read "MONITOR POSITION SENSOR AND RESET HOME". Applicant has adopted the Examiner's recommendation and amended Fig. 2 accordingly.

Fig. 3 has been objected to for failing to identify which element is the manifold. Fig. 3 has been amended to identify the manifold as reference number 29. For consistency, paragraph [0036] of the specification has accordingly been amended to denote the manifold as element 29.

The Examiner has further objected to Fig. 3 for failing identify the means biasing the piston toward a centered position. The objection is respectfully traversed. This feature is actually shown in Fig. 1 and is discussed in paragraph [0026], as well as others. Applicant accordingly requests that the instant objection be reconsidered and withdrawn.

The specification has been objected to on the basis that the term "multi-valve manifold" is confusing. The Examiner suggests that the "multi-valve" portion of the term be deleted throughout the specification. Applicant agrees that the occurrence of the term in line 6 of paragraph [0032] should be deleted, and has amended the paragraph accordingly. Applicant, however, disputes that use of the term elsewhere in the specification is somehow improper. As used elsewhere in the application, the term "multi-valve manifold" refers to the manifold and valve assembly, not just the manifold. Applicant contends that such use of the term is not confusing, and that deleting the "multi-valve" portion of term may actually lead to a mischaracterization of the assembly. Accordingly, Applicant requests that the Examiner reconsider and withdraw the objection.

Claims 1-22 stand rejected under 35 U.S.C. § 112, second paragraph. The Examiner contends that the term “multi-valve manifold” is confusing, and suggests that it be replaced with the term “manifold”. Applicant has adopted the Examiner’s suggestion by deleting each occurrence of the term “multi-valve” throughout the claims. The Examiner also contends that claim 1 line 16, and claim 19 line 15, are confusing. The confusion appears to stem from the Examiner interpreting the claim to mean that the control program is connected directly to the valve, pressure sensor, etc. Obviously, that would not be physically possible since a control program is merely a set of commands to be interpreted and executed by another device, such as a computer, which itself could in turn be connected to the valve, pressure sensor, etc. Applicant, however, submits that such an interpretation is incorrect, and ignores the fact that the control program is “operably connected”, rather than simply “connected”, to the other devices. The term “operably connected” is understood to mean that there is not necessarily a direct connection between the components, and that another device may be required to effectuate the connection. The Examiner suggest amending the claims to add “controller having a” before the term “control program”. Doing so, however, would unnecessarily limit the claim beyond what is required by the prior art. Moreover, applicant is only required to include those elements that are considered novel over the prior art, and is not required to claim each and every component that may be necessary to produce a functioning device. Applicant submits that the claims are not confusing or indefinite as presently written, and as such, it is not necessary that the claims be amended as suggested by the Examiner. Accordingly, Applicant respectfully requests that the instant rejection be reconsidered and withdrawn.

Claims 1 and 3-5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Stephenson et al. (U.S. 6,467,264) in view of Rector et al. (U.S. 5,546,847) and Yeaple (Franklin D. Yeaple, Fluid Power Design Handbook, 1995). Claim 1 has been amended to more particularly point out and distinctly claim that the flow valve for selectively and proportionally controlling fluid flow into and out of the fluid operated cylinder is a piezo-electric actuated proportional flow valve.

This is in sharp contrast to the solenoid actuated control valves (21, 22, 23 and 24) described in Stephenson et al. (see Stephenson et al., column 3, lines 42-44). Piezo actuated valves and solenoid actuated valves have very different characteristics. Solenoid actuated valves are relatively large and heavy when compared to piezo actuated valves. Solenoids also consume relatively high amounts of power to remain energized. When supplied with only a reduced amount of power, solenoids operate unpredictably. It is difficult to maintain a solenoid in a partially open or partially closed position. Solenoids also have relatively slow cycle times, and provide weak opening and closing forces. Applicant also refers the Examiner to paragraph [0033] of the present Application for further discussion of the distinctions between piezo and solenoid actuators. Applicant accordingly requests that the intent rejection be reconsidered and withdrawn.

Claims 1-8, 10-17 and 19-22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Stephenson et al. (U.S. 6,467,264) in view of Morita et al. (U.S. 5,431,086), Rector et al. (U.S. 5,546,847) and Yeaple (Franklin D. Yeaple, Fluid Power Design Handbook, 1995). Claims 1, 10 and 19 have been amended to more particularly point out and distinctly claim that the flow valve for selectively and proportionally controlling fluid flow into and out of the fluid operated cylinder is a piezo-electric actuated proportional flow valve. Applicant submits that the claims as herein amended are in condition for allowance, notice of which is requested, for the same reasons as discussed in more detail above with respect to claim 1. Applicant accordingly requests that the instant rejection be reconsidered and withdrawn.

Claims 9 and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Stephenson et al. (U.S. 6,467,264) in view of Rector et al. (U.S. 5,546,847) and Yeaple (Franklin D. Yeaple, Fluid Power Design Handbook, 1995), as applied by the Examiner to claim 1, and over Stephenson et al. (U.S. 6,467,264) in view of Morita et al. (U.S. 5,431,086), Rector et al. (U.S. 5,546,847) and Yeaple (Franklin D. Yeaple, Fluid Power Design Handbook, 1995), as applied by the Examiner to claims 1 and 10, and further in view of Neilson et al. (U.S. 3,099,289).

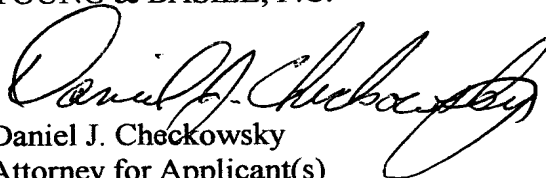
Claim 9 and 18 depend directly from claims 1 and 10, respectively, and as such, are allowable for the same reason their respective base claims are allowable. Applicant accordingly requests that the instant rejection be reconsidered and withdrawn.

It is respectfully submitted that this Amendment traverses and overcomes all of the Examiner's objections and rejections to the application as originally filed. It is further submitted that this Amendment has antecedent basis in the application as originally filed, including the specification, claims and drawings, and that this Amendment does not add any new subject matter to the application. Reconsideration of the application as amended is requested. It is respectfully submitted that this Amendment places the application in suitable condition for allowance; notice of which is requested.

If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

YOUNG & BASILE, P.C.


Daniel J. Checkowsky
Attorney for Applicant(s)
Registration No. 51,549
(248) 649-3333

3001 West Big Beaver Rd., Suite 624
Troy, Michigan 48084-3107

Dated: March 10, 2006